

Claim 106. A method for treating a volatile material comprising the steps of:

a) providing the water insoluble bead of claim 53; and

b) storing the water insoluble bead in water to prevent release of the volatile material.

Claim 107. The water insoluble bead according to claim 54, wherein the oil in water emulsion comprises both a gelatin and an alginate.

REMARKS

The Official Action of May 8, 2002 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Claims 1-52 have been canceled and rewritten as new claims 53-106 to provide a clearer record of the claims presently on file. In the international stage of this application, original claims 1-7 directed to a water insoluble bead were replaced with claims 1 and 3-7 (with cancellation of claim 2) directed to a dispersion of water insoluble beads, and claims 8-52 were replaced with amended claims 8-52. The

NO Examiner has apparently examined the original claims 1-52 rather than the amended claims and thus has not addressed the recitations in the amended claims pertaining to the beads being in a dispersion. If a further action were to issue, Applicants

respectfully submit that such action could not properly be made final.

NO, go final

the amendment only to 2,
not the base claim

"dispersion" not not a limitation for a composition
↓
inherent property

As discussed in the specification as filed at, for example, the paragraph bridging pages 2 and 3; the last paragraph on page 3; the first line of the fifth paragraph on page 4; and the Examples beginning on page 8, the invention comprises water insoluble beads comprising a water in oil emulsion that provides for sustained release of a volatile component in atmospheric air, but not in water. The claims as rewritten emphasize this feature of the claimed invention. The other recitations in claims 53-103 track recitations in the original claims, with the steps relating to recovery and storage of the water insoluble beads drawing support, for example, from Example 1 on page 8 of the specification. Claims 104-107 have been added more completely to define the subject matter which Applicants regard as their invention. The recitations in claim 107 draw clear support from the Examples in the specification (see, e.g., Example 1 on page 8 of the specification).

The claims as rewritten are free of the informalities noted by the Examiner at pages 3 and 4 of the Official Action. In particular, the term "bioactive" in claim 61 (formerly claim 10) has been replaced with its dictionary definition ("having an effect on a living organism"). The relative terms in claims 75 and 79 (formerly claims 24 and 28) which the Examiner considered to be objectionable have been removed. All claims as amended are believed to be sufficiently definite to satisfy the dictates of 35 USC 112, second paragraph.

Claims 1-2 were rejected under 35 USC 102(b) as allegedly being anticipated by Connick. The remaining claims considered were rejected under 35 USC 103(a) as

allegedly being unpatentable over Connick and Nitto Electric Ind Co. in view of Meinke et al. Insofar as the Examiner may consider these rejections to apply to the claims as amended in the PCT application or as now rewritten, Applicants respectfully traverse these rejections.

The claims presently on file are directed to compositions containing components, including a surface active agent which is used to form an oil in water emulsion comprising the hydrophobic volatile component, that are selected and are present in respective concentrations in the compositions whereby to provide unique release properties of the volatile component in atmospheric air. For example, with the claimed invention it is possible to release an active material, e.g. a pheromone, into the atmosphere, by its evaporation (the pheromone is a liquid oil). In contradistinction thereto, the Connick patent deals with a method for preparing alginate beads containing bioactive material which is released into aqueous medium. The bioactive material, such as a pesticide, is present in the beads, and is active only if in contact with water, as stated in the Connick abstract ("applied to terrestrial or aqueous environments"). As stated in Connick at column 2, lines 5-11, "...Useful in providing controlled release of bioactive materials contained therein, when applied to aqueous and certain terrestrial environments". Furthermore, all the Connick examples show the function of the bioactive material while the beads are immersed in water, or are in contact with water, such as flooded pots (example 4), beaker containing water (example 6) etc. Obviously, the Connick patent describes the release of the bioactive material in terms of leaching, diffusion, dissolution (Connick at column 6, lines 13-

15), which are related to transport of molecules through liquids, and never uses the term "volatile bioactive material".

Additional support for the reliance of the Connick release mechanism on the presence of water is Connick is focused on methods which lead to controlled floatation of the beads by inclusion of air, which is relevant only if the beads are to be dispersed in liquid (see claim 9). On the contrary, in the claimed invention, the components are selected and are present in respective amounts such that there is no release of the active material (pheromone), unless it is dried and exposed to the atmosphere.

It will thus be realized that the Connick patent does not teach or suggest (and in fact teaches away from) a bead containing a volatile component that is released in atmospheric air and therefore both the rejection of lack of novelty and lack of obviousness are not properly based on this reference.

The above distinction of the claimed invention from Connick is the basis for the International Preliminary Examination Report (IPER) which issued for in the international application. The Connick reference was cited and considered as D3 and the Examiner clearly stated that "novelty can be acknowledged with respect to D3 as D3 does not disclose a dispersion of beads having the composition as presently claimed."

Similarly when considering inventive step the IPER states as

follows: "Document D3 is to be seen as the closest prior art to the present application as it discloses beads having similar composition to the beads in the present dispersion (cf. Example 11 of D3). D3 also states that insect pheromones are to be included under the list of bioactive materials which can be incorporated into the beads of D3.

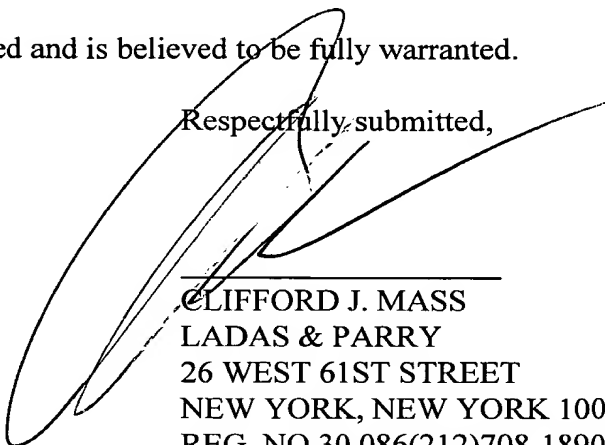
The object of the present application is to be seen as the provision of a delivery system for volatile bioactive substances, e.g. pheromones.

Although the beads themselves may be made obvious by the disclosure of D3, a dispersion of the water insoluble beads is not contemplated by D3 as a way of storing the beads so that the active material is not released until the beads are actually used. The objective of the present application has therefore been met in a non-obvious manner. The subject-matter of claims 1,3-52 presently on file is therefore seen to be the result of an inventive step."

Since the primary reference only teaches the release of an active component into aqueous medium and does not teach or suggest a composition adapted to release an active material into the atmosphere by evaporation, it would appear to be impermissible to combine the same with the other (non-related) references. This would respectfully require a hindsight reconstruction of the prior art based on the teaching of the present application while ignoring what each of these references teaches in and of themselves.

In view of the above, it is respectfully submitted that all rejections of record should be withdrawn and that the application is in allowable form. An early notice of allowability is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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